NAVSEA
WARFARE CENTERS
NEWPORT

Mk 39
Expendable Mobile ASW Training Target

EMATT

Mod 0, Mod 1, Mod 1A(VS) & Mod 2

Mk 39 EMATT Mod 0, Mod 1, Mod 1A Variable Speed (VS) & Mod 2 EMATT Mission

The Mk 39 EMATT is the US Navy's low cost, open ocean ASW training target. Since the integration of a Mk 72and Mk 84 tracking pinger function, EMATT Mod 1 , Mod 1VS, and Mod 2 can support fleet training and RDT&E exercises at all of the navy's undersea ranges.

All EMATT Mods are delivered to the fleet packaged in a SLC with parachute assemblies which allows for air launch from all ASW equipped aircraft, fixed and rotary winged. Removal of the parachute assemble allows for deck launch from ASW ships.

MK39 Mod 0
EMATT Description

Acoustics

- **Sonar**
  - **Passive:**
    4 tonals: 450, 600, 720, & 900Hz
    Fixed Amplitude 129-133 dB
  - **Active:**
    Echo repeats to all fleet sensors
    Receive Sensitivity: 135 dB
    180 Msec max. reply length
    Target strength: At Least 10 dB
    Maximum Output: 175 dB
    Reply delayed 180 mses(150 yard error)
- **Torpedo**
  - **Transponder for the Mk 46 Torpedo**
  - **Receive Sensitivity: 146 dB**
  - **Replies at 175 dB**
  - **No Passive capability**

Dynamics

- **Speed: 8knots / 7knots w/ MAD**
- **Endurance: 3 hours**
- **Depth Range: 75-600 Feet**
- **Headings: 8 headings every 45 degrees**
- **Launch: Surface and all fixed and rotary wing ASW aircraft**

Magnetic Anomaly Detection System

- **Deploys and activates for last 1/2 hour of run (In RPS 1, 2 & 3 Settings)**
- **Target runs at 75 feet**
- **Early Deployment w/ 1 second DICASS pulse after first half hour of run**

MK39 Mod 1
EMATT Description

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Acoustics

- **Sonar**
  - **Passive:**
    - **4 tonals: 450, 600, 720, & 900Hz**

    Amplitude Attenuation: 0-24 dB
  - **Active:**

    Echo repeats to all sensor types

    Receive Sensitivity: 138 dB

    180 Msec max. reply length

    Target strength: At Least 10 dB

    Maximum Output: 175 dB

    Reply delayed 180 mses(150 yd error)

    Conducts Autonomous Evasions
- **Torpedo**
  - **Echo Repeater for Mk 46, Mk 48 & Mk 50 Torpedoes**
  - **Receive Sensitivity: 146 dB**
  - **Replies at 175 dB**
  - **No Passive capability**

Dynamics

- **Speed: 8knots/ 7knots w/ MAD**
- **Endurance: 3 hours**
- **Depth Range: 75-600 Feet**
- **Headings: 8 headings / 45 degrees increments**
- **Launch: Surface and all fixed and rotary wing ASW aircraft**

Magnetic Anomaly Detection System

- **Deploys and Activates for last 1/2 hour of run (RPS 1, 2 & 3 Settings)**
- **Target runs at 75 feet**
- **Early Deployment w/ 1 second DICASS pulse after first half hour of run**

Range Tracking Pinger

- **Compatible with Mk 72 and Mk 84 Systems**

MK39 Mod 1A Variable Speed (VS) EMATT Description

Acoustics

- **Sonar**
  - **Passive:**
    - **4 Tonals: 450, 600, 720, & 900Hz**
    - **Amplitude Attenuation: 0-24 dB**
  - **Active:**
    - **Echo repeats to all sensor types**
    - **Receive Sensitivity: 138 dB**
    - **180 Msec max. reply length**
    - **Target strength: At Least 10 dB**
    - **Maximum Output: 175 dB**
    - **Reply delayed 180 mses**
    - **Conducts Autonomous Evasions**
- **Torpedo**
  - **Echo Repeater for Mk 46, Mk 48**
  - **& Mk 50 Torpedoes**
  - **Receive Sensitivity: 146 dB**
  - **Replies at 175 dB**
  - **No Passive capability**

Dynamics

- **Speed: 3-8 knots/ 5-7knots w/ MAD**
- **Endurance: 3-8 hours based on speed**
- **Depth Range: 75-600 Feet**
- **Headings: 8 headings / every 45 degrees**
- **Launch: Surface and all fixed and rotary wing ASW aircraft**

Magnetic Anomaly Detection System

- **Deploys and Activates for last 1/2 hour of run (RPS 1, 2 & 3 Settings)**
- **Target runs at 75 feet**
- **Early Deployment w/ 1 second DICASS pulse after first half hour of run**

Range Tracking Pinger

- **Compatible with Mk 72 and Mk 84 Systems**

Field Programmable

- **Fleet User can program target with Portable Target Programmer & PC software application**

MK39 Mod 2 EMATT Description

Acoustics

- **Sonar**
  - **Active:**
    Echo repeats to all sensor types
    Freq. Range: 3kHz to 13.5kHz
    Pulse Widths: 28 to 200msec
    Rep. Rate 1/se
  - **Conducts Autonomous Evasions**
  - **Passive:**
    12 Tonals
    Frequency Range 100 to 3kHz
  - **Broad Band Noise:**
    Frequency Range: 100 to 13.5 kHz Bandwidths: 10Hz to1500Hz
  - **Transients:**
    Downloadable sounds .wav files
- **Torpedo**
  - **Echo Repeater for all US Torpedoes**

Dynamics

- **Speed: 3-8 knots/ 5.5-7knots w/ MAD**
- **Endurance: Max. 4 hours @ 8 Knots; 10 hours @ 3 knots**
- **Turn Rates: Submarine-like; nominal 2°/sec**
- **Depth Range: 0-600 Feet in 1 ft increments**
- **Course Control: Magnetic Compass, programmable (0 to 359° in 1° increments**
- **Launch: Surface and all fixed and rotary wing ASW aircraft**

Magnetic Anomaly Detection System

- **DC pulses of 8.25 amperes for 300msec. @1.8 second repetition rate**

Range Tracking Pinger

- **Compatible with Mk 72 and Mk 84 Systems**

Field Programmable/sec

- **Fleet User can program target with Portable Target Programmer & PC software application**

Mk 39 EMATT REQUISITIONS

- **Questions regarding requisitioning of Mk39 Mod 0, Mod 1, VS and MK39 Mod 2 EMATTs can be directed to the:**

- **Naval Operational Support Center**
  Item Manager
  Telephone: 717-605-3606

NALC	**National Stock #**
Mk39 Mod 0 LW176	**920 01 329 8751**
Mk39 Mod 1 CWIE	**6920 01 456 4753**
MK39 Mod 1A (VS) CWLC	**6920 01 476 4137**
MK39 Mod 2 CWOC	**6920-01-512-8076**

Technical Support & Special Training Requests

- **Contact either of the following individuals at the Naval Undersea Warfare Center, Newport , RI 02841 with technical questions concerning the Mk 39 EMATT.**

  Program Manager

  Email: EMATT@npt.nuwc.navy.mil

  Telephone: 401-832-1682 ; DSN 432-1682; FAX 4825

  Senior Program Engineer

  EMAIL: EMATT@npt.nuwc.navy.mil

  Telephone: 401-832-1670; DSN 432-1670; FAX 4825

- **The MK39 EMATT Technical Manual is available on the following Web site: https:// wwwex.crane.navy.mil/sonobuoy/ietm.htm**